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EXAMINER

LEE, BENNY T

ART UNIT	PAPER NUMBER
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2817

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,934	MATTERS-KAMMERER ET AL.	
	Examiner	Art Unit	
	Benny Lee	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: Page 1, line 3, "in which substrate" should be rephrased for idiomatic clarity. Page 2, line 12, "to very many" should be rephrased for idiomatic clarity. Page 3, line 24, note that "Or it" should be rephrased for grammatical clarity.

The disclosure is objected to because of the following informalities: Page 2, lines 31, 32, it is noted that the reference to "claim 1" here at is inappropriate and should be deleted. Page 3, lines 26, 27, note that "By this means" should be rephrased to indicate the intended means for clarity of description. Page 4, line 27, note that "which assume them" is vague in meaning and needs clarification; line 28, note that "frequency is laid down" is vague in meaning and needs clarification. Page 10, lines 6, 21, should --, respectively-- follow "96" (line 6) & "directly" (line 21), respectively for an appropriate characterization? Clarification is needed. Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels appearing in the respective drawing figures need a corresponding description in the specification description of those drawing figures: FIGS. 8, 10, all reference labels therein, FIG. 11 (b); FIG. 11 (d). Appropriate correction is required.

The drawings are objected to because of the following: In FIG. 1, note that reference labels --d-- & --b-- should be provided such as to be commensurate with the description of FIG. 1; In FIG. 9b, note that reference label --2k-- should be provided such as to be commensurate

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with the description of FIG. 9b; In FIG. 12a, should reference labels “95” & “96” correctly be --93-- & --94--, respectively for consistency with the description of FIG. 12a?; similarly should reference label “93” correctly be --95-- for consistency with the description in FIG. 12b?

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The detail description needs to provide a corresponding description for the following: the thickness d being less than the width b as recited in claim 4; the dielectric layer surround the conductive tracks being greater than the dielectric constant of the surrounding dielectric layers as recited in claim 6; the various dielectric compositions recited in claims 9 &

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10; the working frequency of 400 MHz recited in claim 11; the respective value of k being “increased” by the specified value as recited in claims 12 & 13; the non-overlapping extension as recited in claim 17; the conductive tracks surrounded by magnetic materials as recited in claim 22; the impedance of the coupling being determined by the position of the conducting track structure as recited in claim 26.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 1, note that the recitation of the “common mode impedance” of the conducting track structure being different from the “push-pull impedance” of the conducting track structure lacks an adequate written description in the detail description, such that one skilled in the art would not be able to make this aspect of the invention. That is to say, the lack of any specific disclosure as to how to configure the “conducting track structure” to provide the desired different impedances would have caused one skilled in the art to have been unable to make the invention in the manner intended by the applicants’, without resorting to undue experimentation.

Appropriate clarification is required.

Claims 12-17, 20-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 12, 13, note that the recitation of the (single) “dielectric layer arranged between the opposed conducting track structure” is not definite since claim 1 recites “at least one

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arrangement of conducting track structures”, thereby implying that more than one “opposed conducting track structure” exists and thus it would be unclear between which one of the conducting tracks is the recited (single) “dielectric layer” disposed. Clarification is needed.

In claim 14, it is noted that it is unclear how “opposing conducting tracks” relate to the earlier recitation of “at least one arrangement of conducting track structures” (e.g. the same track structures, different track structures, etc). Clarification is needed.

In claims 16, 17, 21, 22, note that it is unclear which one of the one or more conducting tracks is intended by the recitation of “the opposed conducting track”. Clarification is needed.

In claim 20, note that “at least one free end” is vague in meaning since it is not clear with respect to what feature is the “free end” associated.

In claims 23, 26, note that it is unclear how “(a/the respective) conducting track structure” would respectively relate to any of the earlier recitations of the “conducting track structure”. Clarification is needed.

The following claims have been found to be objectionable for reasons set forth below:

In claim 13, line 3, note that --one of the electrode layers-- is suggested for consistency in claim terminology.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 7, 11, 14-16, 18, 19, 21, 23, 26, 27, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al in view of Ralph (of record).

Park et al (Fig. 3) discloses a noise filter configured as a laminated structure comprising: a plurality of dielectric layers (i.e. not shown, but be inherently present to form the laminate structure) having first and second opposing conducting layers or tracks (i.e. designated as an A-type pattern and a B-type pattern) disposed between the inherent dielectric layers of the laminate structure. Note that the arrangement of coil patterns (A, B) and inherent dielectric sheets simultaneously define at least one inductive element (i.e. along the coils A, B) and at least one capacitive element (i.e. between the opposing coils and through the inherent dielectric layers) as schematically depicted in the equivalent circuit of Fig. 1. Note that connections (A1-A12; B1-B12) serve as a respective linking bridge or conducting member for electrically connecting the respective coils patterns (A, B) to each other through a corresponding inherent dielectric layer. Also, as evident from Fig. 3, note that the connections (A1-A12; B1-B12) electrically connects a starting or free end of one coil to the terminating end of the other coil to thereby place the connected points of the coils at the same fixed potential {i.e. by virtue of the electrical connection}. Additionally, note that the input/output electrodes (e.g. IN; OUT) directly connect with the corresponding coils (A). As known to those of ordinary skill in the art, noise filters of

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this type are inherently defined a common mode component and a push-pull or differential component. However, Park et al differs from the claimed invention in that it does not explicitly disclose that the impedance associated with the common mode component and the push-pull/differential component differ by at least a factor of two.

Ralph (Fig. 9) discloses a representative graph of odd-mode impedance (corresponding to push-pull/differential mode component in Park et al) and even mode impedance (corresponding to the common mode component in Park et al) as a function of line width. Note in particular that for any particular line width the odd-mode impedance and even-mode impedance differ by a factor of at least 10 {as evidence by the difference in scale of the odd mode impedance (i.e. left hand vertical axis) as compared to the even mode impedance (right hand vertical axis)}.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have designed the line widths of the conductive coils in Park et al (Fig. 3) to have provided the desired even and odd mode impedances such as set forth by the representative graph in Ralph. Such a modification would have been considered an obvious design and optimization consideration within the purview of one of ordinary skill in the art, thereby suggesting the obviousness of such a modification. Accordingly, as an obvious consequence of such a modification, the even and odd mode impedances necessarily would have differences in impedance which is on the order of at least two and upwards to at least ten, as evidence by the representative graph in Fig. 9 of Ralph. Regarding claim 11, it would have been obvious to have further designed or optimize the frequency range to have been in the desired range of 400MHz, which would have been within the purview of one of ordinary skill in the art.

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Regarding claim 7, note that the prior art to Park et al fails to disclose that the dielectric constant of the layers is as recited. As described at column 4, line 8 in Ralph, the laminated dielectric layers in Ralph comprise a material having a dielectric constant of 9. Accordingly, it would have been obvious in view of the references, taken as a whole, to have realized the inherent dielectric sheets in Park et al to have been a material having a desired dielectric constant (e.g. a dielectric constant of 9 such as taught by Ralph). Such a modification would have been considered an obvious design or optimization of known parameters in filters, as known to those of ordinary skill in the art.

Applicant's arguments filed 20 May 2008 have been fully considered but they are not persuasive.

Regarding the specification objection for idiomatic and grammatical matters, the examiner is merely suggesting that applicants' place these passages of the specification into a form (i.e. idiomatically or grammatically) more compatible with US practice.

Regarding the objections to the specification, in particular to the objection to the reference to "claim 1", the examiner must point out such a reference would be appropriate as long as "claim 1" remains pending during the prosecution of the application. However, as may occur during the course of any patent application, claims may be cancelled (i.e. including claim 1) and replaced by differently numbered claims. Thus in the event that claim 1 is canceled, such a reference would then be inappropriate. Thus as a matter of expediency, it is suggested that reference to any claim numbers should be deleted from the specification.

Regarding the objections to the drawings, it must be noted that the specific reference numbers objected to are explicitly described in the specification description of the corresponding

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drawing figure and thus must likewise be labeled in that drawing figure for consistency between the specification description of that drawing figure and the labeling in that drawing figure.

Regarding the objection to the specification as lacking a specific description of certain claimed features, it should be noted that such claimed features are merely reference in the summary of the invention, but appear to be lacking from the detail description of the invention, where such description would normally provide support for the claimed invention.

Regarding the rejection based on 35 USC 112, first paragraph, as lacking enablement, applicants' assert that there is indeed an adequate written description of the difference in impedance, and points to specific passages through out the specification. However, it is noted that those passages mere allude to the presence of a difference in impedance, but still fails to provide an adequate description (e.g. in the detail description) of how to specifically configure the "conducting track structure" as to effect the required difference in impedance.

Regarding the prior art rejection, applicants' contend that the Nakamura et al reference would not have been combinable with the Ralph reference, especially since such a combination (i.e. common mode impedance and push pull impedance differing by a factor of 2) would run counter with the stated purpose of Nakayama et al of enhancing the normal and common mode impedance (hence the normal and common mode impedances being comparable) and thus would not have been compatible with the increase in the difference in variation of common mode and push-pull impedance suggested by Ralph. Moreover, applicants' argue that in Ralph, the impedance is controlled by the width, and not the thickness of the metal layers.

In response to applicants' contention regarding the Nakayama et al reference teaching away from increase in variation between the common mode and the push-pull impedances, after

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further review of the reference by the examiner, the examiner concurs with applicants' assessment of that reference. Accordingly, the Nakamura et al reference has been withdrawn. However, the examiner has substituted the Park et al reference in place of the Nakamura et al reference for the obviousness combination with Ralph, as set forth in the above rejection. It should be noted that the Park et al reference does not include the comparable values of common mode and normal impedances found deficient in the Nakamura et al reference. Otherwise, the obviousness combination using the Park et al reference would have been substantially the same reason as when it Nakamura et al reference was used in the combination. As for the Ralph reference, it should be noted that the argument that Ralph relies on "width" for impedance and not relying on "thickness" has not been found persuasive since such an argument is not commensurate with what is actually claimed in those claims being rejected. That is to say, none of the rejected claims appear to positively recite that the impedance is based on "thickness". Accordingly, the obviousness of the above combination is sufficient to reject those claims.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

**/BENNY LEE/
PRIMARY EXAMINER
ART UNIT 2817**

B. Lee